Second Annual Display of the Year Awards

The distinguished members of the Display of the Year Awards Committee meet to select the best.

by Ken Werner

For the second year, most of the 15 members of *Information Display*'s Display of the Year Awards Committee met in a secluded location on Wednesday evening during the week of the Society for Information Display's International Symposium, Seminar, and Exhibition at San Diego in May. The members discussed the displays they had just seen and the papers they had just heard at the symposium, as well as those seen and heard elsewhere. Subsequent sharing of information, discussion, nominations, and voting proceeded via overnight express, fax, and e-mail.

The members selected an award winner and a recipient of an honorable mention in two categories: (1) Display of the Year and (2) Display Product of the Year. In each category, the committee members were instructed to consider many factors, including innovation, commercial significance, and likely social impact.

All of the displays and products considered for the awards were nominated by the members of the committee, who then voted for the winners. The committee members carried out their responsibilities with the knowledge that the Display of the Year Awards had immediately been accepted as major international industry awards in 1995 – the first year they were awarded.

This year's winners are from companies in Japan, France, and the United States, which is indicative of the global character of the display industry.

To be eligible for this year's awards, products must have become commercially available – either to OEMs or end users – between July 1, 1995, and June 30, 1996.

Ken Werner is the Editor of Information Display. *The opinions expressed in this article are not necessarily those of the Publisher of* Information Display *or of the Society for Information Display.*

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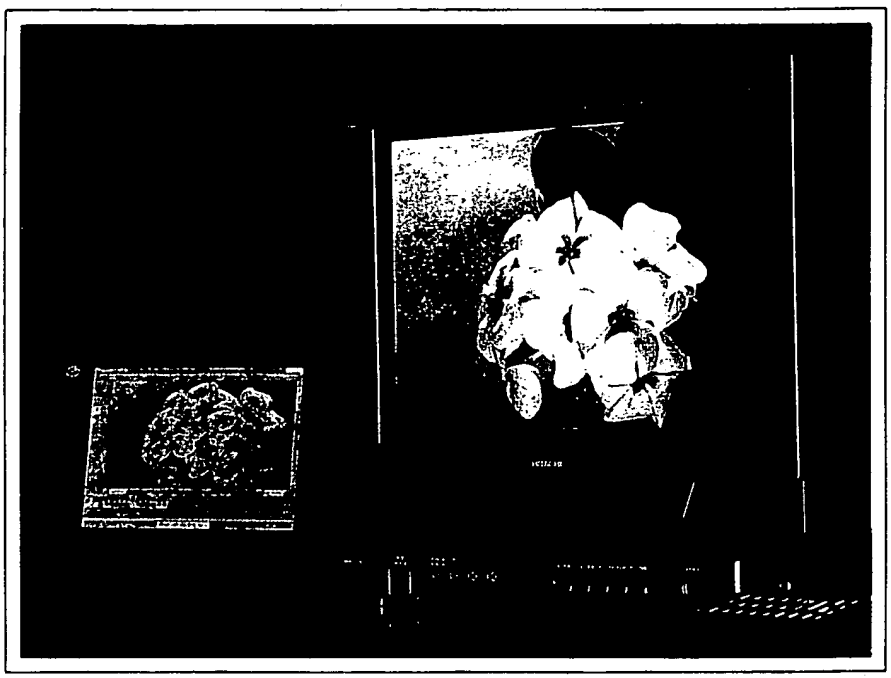
DISPLAY OF THE YEAR AWARD

Hitachi's 13.3-in. Super TFT-LCD with In-Plane Switching

When authors from Hitachi's Electron Tube and Devices Division showed a prototype of the company's In-Plane Switching (IPS) TFT-LCD at Asia Display late in 1995, it drew crowds at the author-interview session. The 13.3-in. XGA production model is even more impressive.

Although other companies are now following in Hitachi's footsteps, Hitachi was first to utilize IPS in a practical display. In so doing, Hitachi created a true desktop replacement for CRTs, with very large horizontal and vertical viewing angles and with no color change at any viewing angle.

IPS, which Hitachi is now calling "Super TFT," makes a major change in TFT-LCD panel architecture. Traditional TFT-LCDs have electrodes on the front and back plates. Applying a voltage to these electrodes tilts the liquid-crystal molecules from the plane of the plates to a plane that is perpendicular to the plates. This turns the LCD pixel from OFF to ON, but does so in such a way that the optical characteristics can vary greatly with angle. Super-TFT puts both electrodes on the bottom plate so that when the liquid-crystal molecules are twisted from the OFF to the ON state, they are always oriented parallel to the bottom plate. This results in optical characteristics that are remarkably constant with viewing angle.



The process for implementing this new architecture is actually a bit simpler than the traditional one. The only tradeoff arises from the fact that the Super-TFT approach puts opaque metal electrodes on the bottom plate. The result is a somewhat smaller aperture ratio, so Super-TFTs are not suitable for battery-operated applications.

But battery operation is not Super-TFT's *raison d'etre*. Displays using this technology are intended for CRT replacement of desktop monitors. For that application, Hitachi has developed an impressive technology and created an impressive product.

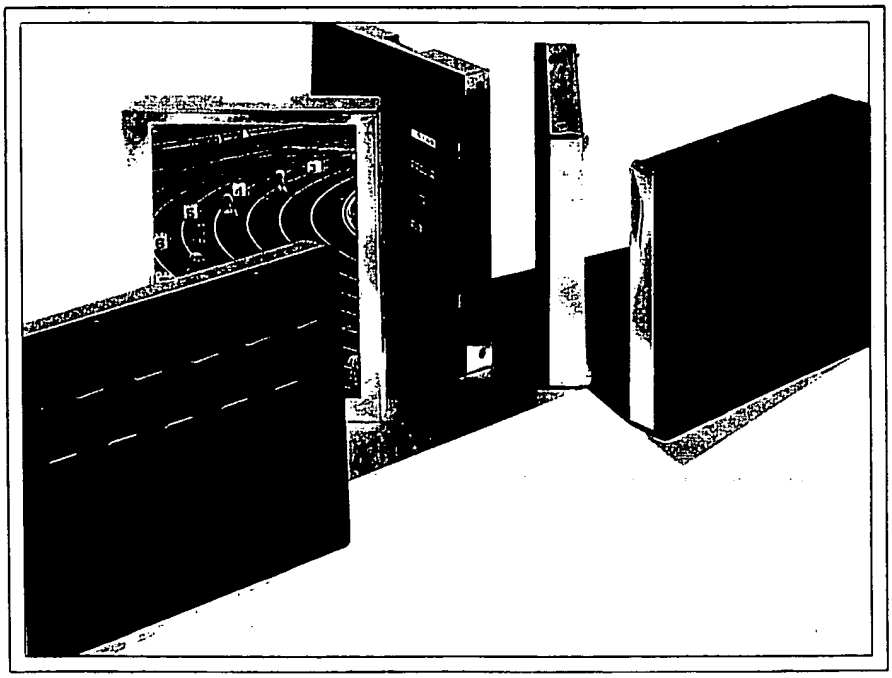
DISPLAY OF THE YEAR AWARD

Honorable Mention: PixTech's 5.2-in. Field-Emission Display

PixTech has developed the first commercially available field-emission display (FED) the old-fashioned way: by carefully developing the technology over a period of many years. The ¼-VGA monochrome display comes in a 70-nit 1-W (typical) version with a white phosphor and a 185-nit 3-W (typical) version with a green phosphor. The viewing angle is 160° (vertically and horizontally).

PixTech has shown prototypes of full-color FEDs, including a 4.9-in. ¼-VGA, a 5.2-in. ¼-VGA, and a 10.5-in. full VGA.

PixTech has opened the door for manufacturers of FEDs, and with its PixTech Alliance has invited other companies - including Futaba, Raytheon, and Motorola - to walk through that door with them.



DISPLAY PRODUCT OF THE YEAR AWARD

Sharp's Color Zaurus Personal Information Tool

Sharp entirely rethought the concept of a personal digital assistant (PDA) and wound up putting the individual at the center of a personal world of information that is manipulated through a high-quality information display. While most manufacturers have maximized battery life at the expense of display quality, Sharp realized that a high-quality display would allow it to redefine an entire product category.

The Color Zaurus – which is currently available only in Japan and which will probably carry a different model name when versions are introduced to the North American and European markets – is built around a backlit 65,000-color, ¼-VGA TFT-LCD. An optional digital camera module slips into the included PCMCIA type-2 slot, which can also be used for additional storage or a high-speed modem for World Wide Web surfing with the proprietary browser. A 9600-bps fax/2400-bps data modem is built in for sending and receiving faxes and simple e-mail. Information services can also be accessed by the Color Zaurus, and information can be downloaded to the Zaurus from these services or from PCs. One convenient means for Zaurus-PC communication is by the built-in IrDA infrared optical communications link.

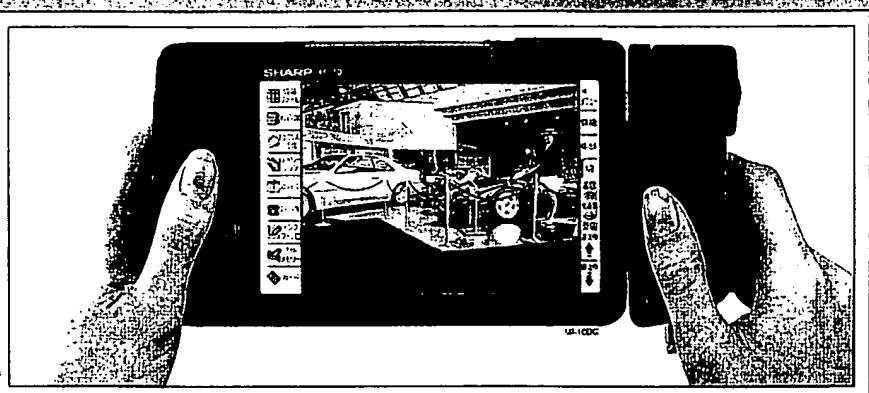
With the digital camera attached, photos can be taken of anything imaginable – including public information displays of airline schedules and booths at trade shows – and stored in the Zaurus for recall, faxing, or sending via MIME e-mail. Voice notes and annotations can also be sent via MIME.

The interface depends heavily on the display and is pen-based. "Ink-Pen WP" captures data written in the user's handwriting and then displays it. The "clean copy" feature recognizes the written characters and presents them for any needed corrections, which are made by simply touching the incorrectly recognized character. This is especially useful for Chinese and Kanji characters and should also be valuable for European alphabets.

Other features that are accessed through the display and the graphical user interface (GUI) are a personal information manager, "Power PIMM" Zaurus-PC data-link software that allows the Zaurus to operate remotely from a PC connected with an IrDA data link, still-image transfer software, WWW access and off-line browsing, video capture, fax send and receive, multimedia e-mail, and slide-show presentations of stored images. There is an optional digital mobile telephone adapter.

Even with its high-quality display and display-centered features, the Color Zaurus weighs little more than a pound and runs for up to 8 hours on one charge of its lithium-ion battery pack.

Sharp has ingeniously used display technology to enhance the usefulness and functionality of the PDA, a category name the company has rejected in favor of "personal information tool."



Display Product of the Year Award

Honorable Mention:

Virtual i-O's Virtual i-glasses VTV

Virtual i-O has advanced the cause of consumer head-mounted displays (HMDs) with its lightweight (8-oz.) 3-D-capable i-glasses that plug into a TV tuner, VCR, laserdisc player, video-game system, or PC. The i-glasses use two 0.7-in. full-color LCDs, each with 180,000 pixels, and include stereo earphones. The suggested retail price of $399 is a large part of Virtual i-O's achievement. An optional PC-interface module and head tracker adds $100 to the price.

Virtual i-glasses VTV (originally and briefly called "Pro Video") use intelligent design and patented optical technology to bring binocular HMDs to the price-sensitive consumer market.

ORIGIN OF THE DISPLAY OF THE YEAR AWARDS

The idea of awards for the best displays of the year was first suggested by Professor Shunsuke Kobayashi to *Information Display Magazine* editor Ken Werner in Monterey, California, in October 1994. Following discussions with Aris Silzars, Kathy Middo, and members of the Board of Directors of the Society for Information Display, the Display of the Year Awards Committee was formally constituted in January 1995 in Santa Clara, California, with Professor Kobayashi as Chair. To ensure a broad perspective as well as in-depth technical understanding, it was agreed that the committee should include technical journalists as well as distinguished display professionals - a strategy that has proved very successful.

1996 DISPLAY OF THE YEAR AWARDS COMMITTEE

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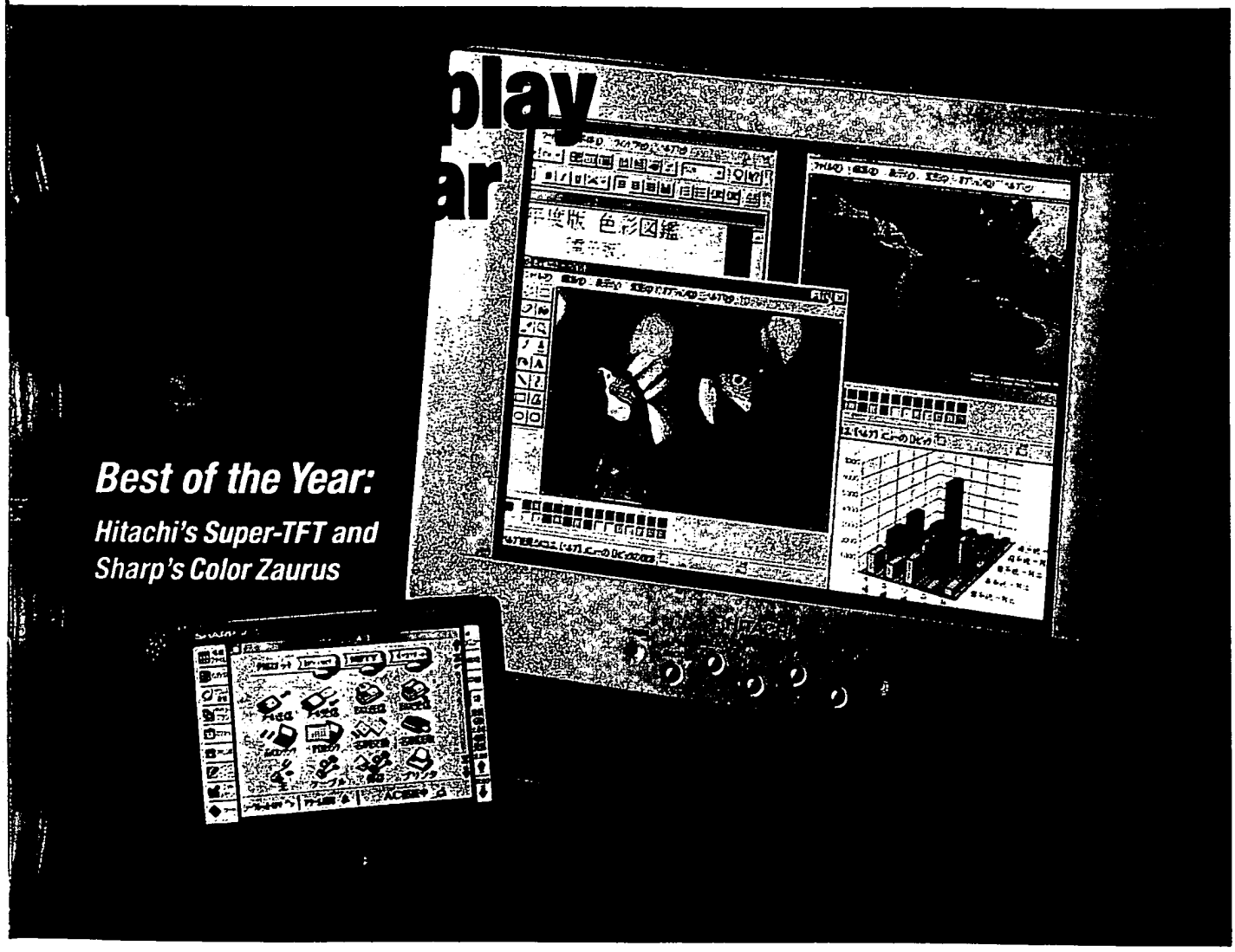

Best of the Year:
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